



# NORTHERN HARDWOOD NOTES

## Wounding And Hardwood Diseases

Most hardwood diseases are spread by spores that are carried either by wind or insects. The spores enter into the host tree through natural wounds (fire scars, bark splits, sunscald, cankers, and branch stubs) or artificial wounds (bark carving, improper pruning, logging damage). Fresh wounds attract certain insects that can carry spores into the exposed part of the tree. The most common type of wound in managed forests results from logging.



A yellow birch showing stem and root injury from logging. The dark wound face is a good indicator of internal defects. Logging should be carefully done because damage to the butt log can produce considerable loss.

The type of disease that enters the tree depends upon the type of wound and its location. Branch wounds are most likely to become infected with diseases such as Hypoxylon canker, Cytospora canker, or Botryodiplodia canker. Trunk wounds provide entry for many heartrot fungi, oak wilt, Nectria canker, Hypoxylon canker, and Eutypella canker (see Note 7.01). Wounds on the roots or root collar often serve as entry points for butt rots and some root diseases. Root wounds on sugar maple can become infected with sapstreak (see Note 7.04).

The size and age of the wound and season of wounding all influence the amount of defect associated with a wound. Generally, the larger the wound the longer it will take to callus over and, consequently, the longer the exposure time to disease organisms. Wounds less than 10 to 15 years old usually have little decay. Wounding during spring and summer increases the potential for disease spread into the tree. During winter, most disease organisms are inactive and wounds are not as likely to become infected.

Some hardwood diseases, such as Eutypella canker and Nectria canker, continually enlarge, but normally do not kill the host tree. However, the cankers weaken the trunk, making the tree susceptible to wind breakage. In addition, they cause a significant amount of degrade in sawtimber-size trees. Other diseases, such as root and trunk rots, destroy the inside of the tree. This weakening process can result in broken off or blown over trees.

Land managers can minimize tree wounding by carefully planning and administering logging operations, maintaining sufficient stocking to promote rapid self pruning and prevent sunscald, using the proper pruning technique, and controlling wildfire.

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